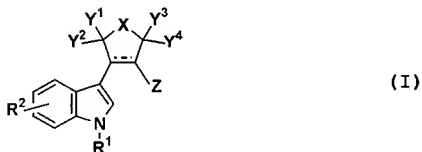
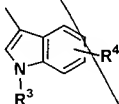


# CLAIMS

1. A cell death inhibitor comprising, as an active ingredient, an indole derivative represented by the following formula (I):



wherein X represents an oxygen atom or N-R<sup>5</sup>; Z represents a halogen atom or



R<sup>1</sup> and R<sup>3</sup> each independently represents a hydrogen atom, an alkyl group which may possess substituent(s), an alkenyl group which may possess substituent(s), an alkynyl group which may possess substituent(s), an aryl group which may possess substituent(s), an acyl group which may possess substituent(s), an alkoxy- or aryloxy-carbonyl group which may possess substituent(s), an alkyl- or arylthiocarbonyl group which may possess substituent(s), an aminocarbonyl group which may possess substituent(s), an alkyl- or arylsulfonyl

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group which may possess substituent(s), an alkoxyl group or an aryloxy group which may possess substituent(s), or a hydroxyl group;  $R^2$  and  $R^4$  each represents substituent(s) on an indole ring, in which number and position (2-, 4-, 5-, 6-, or 7-position as position number of the indole ring) of the substituent(s) and kinds of the substituent(s) may be the same or different, and represents a hydrogen atom, an alkyl group which may possess substituent(s), an alkenyl group which may possess substituent(s), an alkynyl group which may possess substituent(s), an aryl group which may possess substituent(s), an acyl group which may possess substituent(s), an alkoxy- or aryloxycarbonyl group which may possess substituent(s), an alkyl- or arylthiocarbonyl group which may possess substituent(s), an aminocarbonyl group which may possess substituent(s), an alkyl- or arylsulfonyl group which may possess substituent(s), an alkoxyl group or an aryloxy group which may possess substituent(s), an alkyl- or arylthio group which may possess substituent(s), a hydroxyl group, a carboxyl group, a cyano group, a nitro group, an amino group which may possess substituent(s), or a halogen atom;  $R^5$  represents an alkyl group which may possess substituent(s), an alkenyl group which may possess substituent(s), an alkynyl group which may possess substituent(s), an aryl group which may possess substituent(s), an alkoxyl group or an aryloxy group which may possess substituent(s), an amino group which may possess

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substituent(s), a hydroxyl group, or a hydrogen atom; Y<sup>1</sup> and Y<sup>2</sup>, and Y<sup>3</sup> and Y<sup>4</sup> each independently represent two hydrogen atoms or a hydrogen atom and a hydroxyl group, or are combined to form a carbonyl group; and R<sup>1</sup> and R<sup>2</sup>, R<sup>1</sup> and R<sup>3</sup>, R<sup>3</sup> and R<sup>4</sup>, or R<sup>2</sup> and R<sup>4</sup> may be combined to form a hydrocarbon chain or a hydrocarbon chain containing hetero atom(s) which may possess substituent(s); and in the formula, the bond accompanying a dotted line represents a double bond or a single bond, or a pharmaceutically acceptable salt thereof.

2. A drug for treating or preventing progress of symptoms, through inhibiting death of neurons, of neurodegenerative diseases, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

3. A drug for treating or preventing progress of symptoms, through inhibiting death of neurons, of neonatal jaundice, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

4. A drug for treating or preventing progress of symptoms, through inhibiting cell death, of myasthenia gravis, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1*

on a pharmaceutically acceptable salt thereof as an active ingredient.

5. A drug for treating or preventing progress of symptoms, through inhibiting death of neurons, of brain ischemia and delayed neuronal death (DND), comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

6. A drug for treating or preventing progress of symptoms, through inhibiting death of myocardial cells, of ischemic heart disease, viral myocarditis, autoimmune myocarditis, myocardial disorders or cell death due to hypertrophic heart and heart failure, or arrhythmogenic right ventricular cardiomyopathy, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

7. A drug for treating or preventing progress of symptoms, through inhibiting death of hepatic cells, of alcoholic hepatitis or viral hepatitis, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

8. A drug for treating or preventing progress of symptoms, through inhibiting death of renal cells, of renal diseases, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

9. A drug for treating or preventing progress of symptoms, through inhibiting excessive death of T-cells, of acquired immunodeficiency syndrome (AIDS), comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

10. A drug for treating or preventing progress of symptoms, through inhibiting cell death, of inflammatory skin disorders, alopecia, or graft versus host disease (GVH), comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

11. A drug for treating or preventing disorders or side effects, through inhibiting cell death, of radiation disorders, or disorders or side effects due to toxic agents, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of claim 1* or a pharmaceutically acceptable salt thereof as an active ingredient.

12. A drug for treating or preventing progress of symptoms, through inhibiting cell death, of sepsis, comprising *an indole derivative of claim 1* ~~a derivative represented by the above formula (I)~~ or a pharmaceutically acceptable salt thereof as an active ingredient.

13. A drug for treating or preventing progress of symptoms, through inhibiting death of cells derived from bone marrow, of osteomyelo-dysplasia, comprising *an indole derivative of claim 1* ~~a derivative represented by the above formula (I)~~ or a pharmaceutically acceptable salt thereof as an active ingredient.

14. A drug for treating or preventing progress of symptoms, through inhibiting cell death, of insulin dependent diabetes, comprising *an indole derivative of claim 1* ~~a derivative represented by the above formula (I)~~ or a pharmaceutically acceptable salt thereof as an active ingredient.

15. A drug for treating or preventing progress of symptoms, through inhibiting death of neurons, of prion diseases, comprising *an indole derivative of claim 1* ~~a derivative represented by the above formula (I)~~ or a pharmaceutically acceptable salt thereof as an active ingredient.

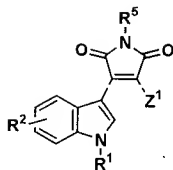
16. A drug for treating or preventing functional deficiency of transplanted organs, tissues or cells at transplantation of organs, tissues or cells, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of dantrolene* or a pharmaceutically acceptable salt thereof as an active ingredient.

17. A preservative for organs, tissues or cells, comprising ~~a derivative represented by the above formula (I)~~ *an indole derivative of dantrolene* or a pharmaceutically acceptable salt thereof as an active ingredient.

18. An assay method for cell death inhibiting substances, comprising ~~applying a cell death-inducing stimulus to primary cultured cells in the presence of a test compound or adding a test compound just after applying a cell death-inducing stimulus, followed by evaluating a ratio of cell death.~~

19. A medicament comprising, as an active ingredient, a 2-halo-3-indolylmaleimide derivative represented by the following formula (II):

add  
F1  
add C2



(iii)

wherein  $Z^1$  represents a halogen atom; and  $R^1$ ,  $R^2$  and  $R^5$  have the same meanings as described above, or a pharmaceutically acceptable salt thereof.

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